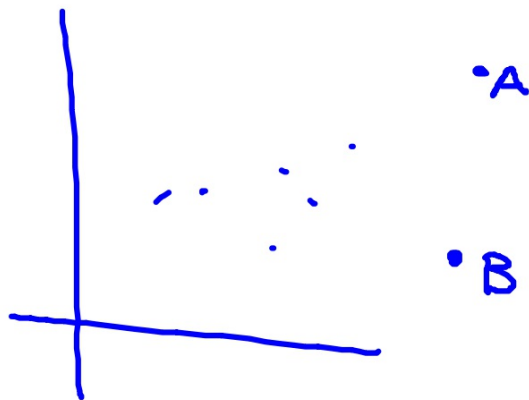
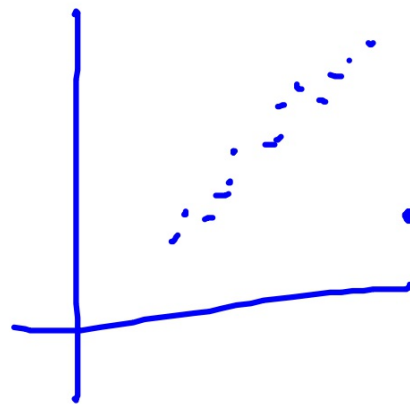
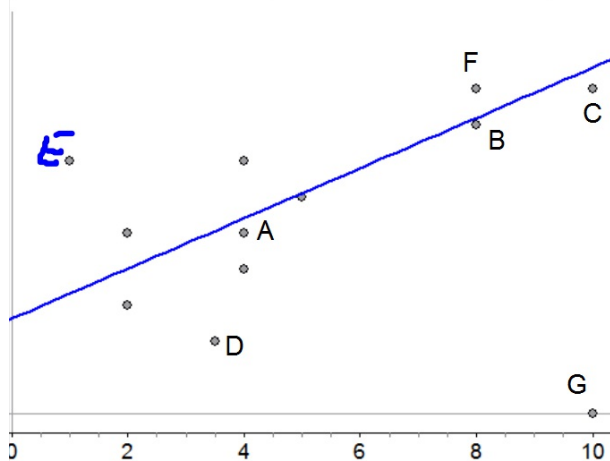


* Complete worksheet 9A: The Wandering Point

Label each new point
as A, B, C, D, E



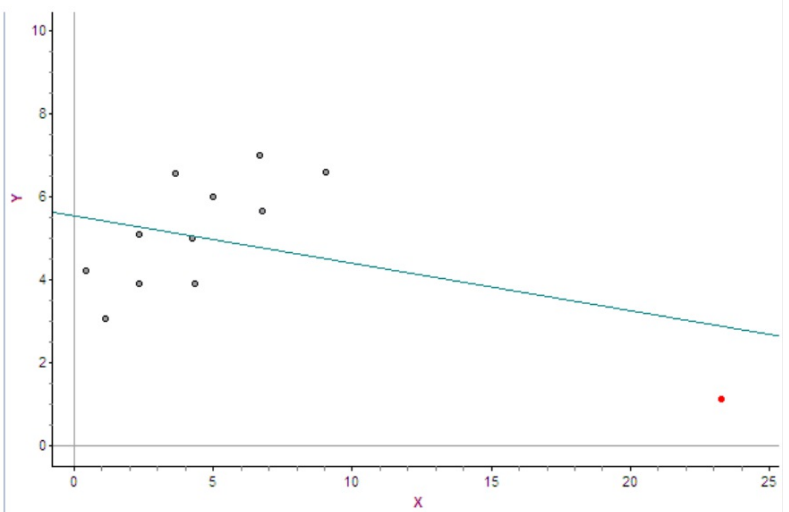
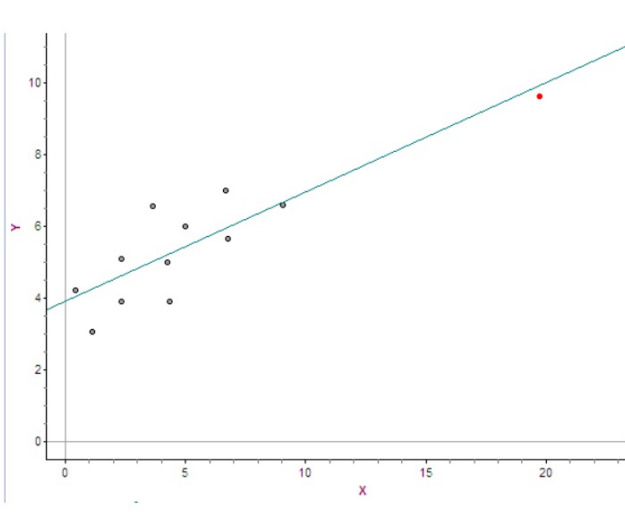
None (original data)	r 0.589	b_1 0.694	N/A RESID	N/A Influential	N/A High Lev.
(4,5) A	0.577	0.667	small neg		
(8,8) B	0.791	0.664	0		X
(10,9) C	0.847	0.621	0		X
(3.5,2) D	0.423	0.659	-2		
(1,7) E	0.079	0.083	2	X	
(8,9) F	0.845	0.819	0	X	X
(10,0) G	-0.614	-0.517	-1.5	X	X



Chapter 9

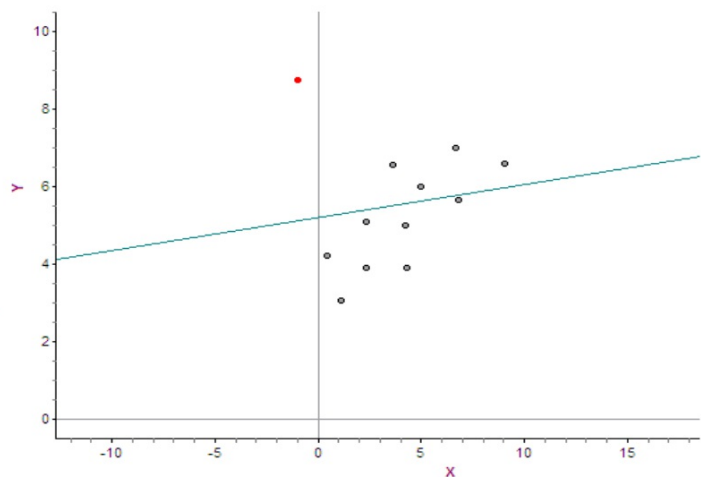
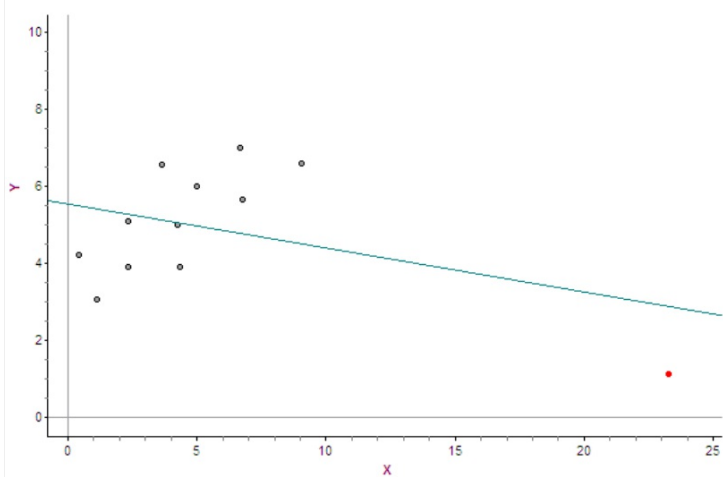
High Leverage:

- point whose x-value is extreme (outlier in x-var.) *
- pulls the LSR line close to itself
- residuals **can** be small (pull the line close to it)
- **can** change the correlation and/or the slope (doesn't have to)



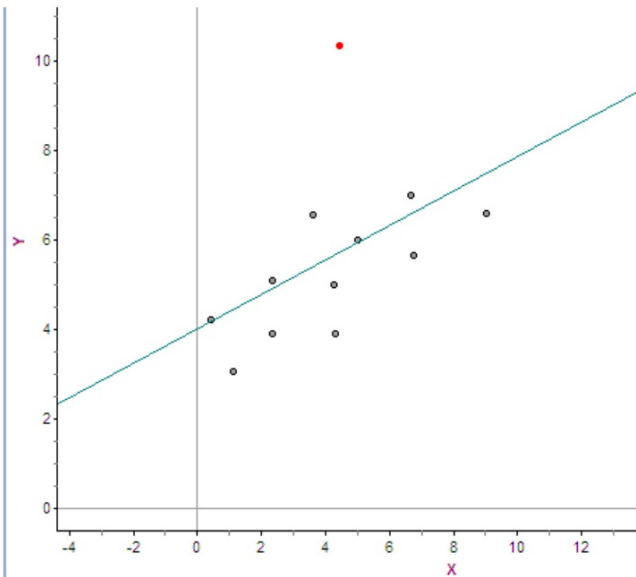
Influential Point:

- drastically changes the slope when removed



Outlier:

- Any data point that stands away from the others
- has a large residual OR has high leverage
- **can** change correlation



Example:

PAGE 208 in book..... look at the JUST CHECKING

- 1) Large residual, no leverage, not influential (just outlier)
- 2) High Leverage, Small residual, NOT Influential,
YES outlier
- 3) High Leverage, Medium residual, YES Influential

Complete p. 216 #11

11) (a) high leverage, small resid
not influential
correlation weaker
slope stay same

(b) high leverage, smaller resid
influential
correlation weaker
slope increase (goes from -- to +)

(c) - not high leverage, large residual

- not influential
- correlation would be stronger
- slope would be about the same (slight increase)

(d) - not high leverage, small residual

- not influential
- correlation would be stronger
- slope would remain about the same (slight increase numerically, would become less steep)

Complete p. 216 #12, 13, 14

* Complete Worksheet 9B: Altering LSRL

2) moderate, positive, linear, one outlier at (81, 278)

3) yes, humans at (81, 278), maybe elephants

4) humans

5) humans

6) $y = 90.625 + 4.725(x)$ $r = 0.544$

8) high leverage = outlier in the x variable on the residual plot too
influential = hard to tell!
outlier = high resid or outlier in the x-variable

9) yes, remove humans, it is very influential and has high leverage

10) $\hat{y} = -39.517 + 15.498(x)$ $r = 0.85$

11) yes, the model improved:

- * the residual plot is scattered
- * the correlation increased
- * the scatterplot looks linear, strong

13) maybe- elephants & hippos look to be possible outliers still

14) $\hat{y} = -1.271 + 11.609(x)$ $r = 0.727$

15) somewhat influential... changed the slope a bit

16) NO!